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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* TATSUHIKO TANIMURA and HIROFUMI SEKIGUCHI

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Appeal 2009-007443<sup>1</sup>  
Application 10/697,084  
Technology Center 3700

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Decided: September 18, 2009

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Before JOHN C. MARTIN, JOSEPH L. DIXON, and  
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

MARTIN, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The real party in interest is Aruze Corporation. Br. 2.

### STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-10, which are all of the pending claims.

We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

#### *A. Appellants' invention*

Appellants' invention is a pinball slot machine or a pinball machine that includes a liquid crystal display in addition to a variable display device having a plurality of reels. Specification at ¶ 0001.<sup>2</sup>

Appellants' Figure 1 is reproduced below.

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<sup>2</sup> References herein to Appellants' Specification are to the application as filed rather than to corresponding Patent Application Publication 2004/0229686 A1.

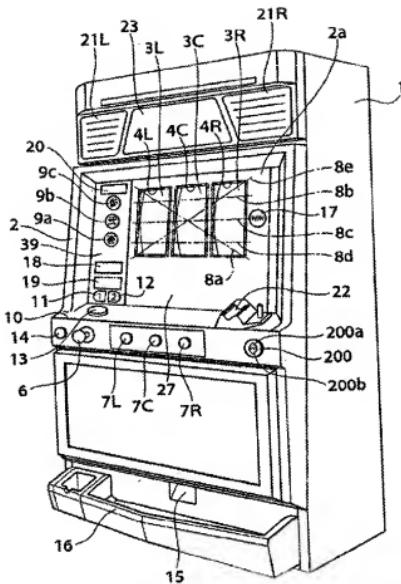


Fig. 1

Figure 1 is a perspective front view of a slot machine in accordance with an embodiment of the invention. *Id.* at ¶ 0016.

A panel display unit 2a formed at the front of a cabinet 2 has a left reel display window 4L, a center reel display window 4C, and a right reel display window 4R. *Id.* at ¶ 0019.

Appellants' invention is described in the Specification as an improvement over the slot machine disclosed in Japanese patent document JP-A-2002-143377. *Id.* at ¶¶ 0007-11.<sup>3</sup> According to Appellants, that slot machine includes an LC panel, a light guiding plate, and cold-cathode tubes located above and below the light guiding plate for applying light thereto. *Id.* at ¶ 0006. The light guiding plate has a light deflection pattern for guiding light into the liquid crystal panel except in the areas that correspond to the reel windows, where a deflection pattern would prevent a clear view of the reel pattern. *Id.* at ¶ 0006-07. The absence of a deflection pattern in those areas of the light guiding plate results in less backlighting of the corresponding area of the LC panel, which can result in a dark LC display. *Id.* at ¶ 0007. "In order to solve the above problem, a fluorescent lamp is placed above and below the reel window as auxiliary light replacing cold-cathode tubes." *Id.*

Appellants' display device is said to provide sufficient backlighting of the LC panel without the need for fluorescent lamps. *Id.* at ¶¶ 0051-52.

Appellants' Figure 3 is reproduced below.

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<sup>3</sup> Although the record includes a copy of this document, this document does not include a figure depicting the components of the LC display device.

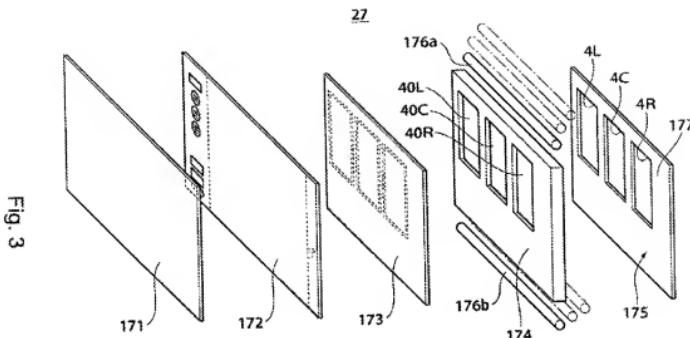


Figure 3 is an exploded perspective view of a liquid crystal display 27, which is a five-layer panel structure that includes, as viewed from front to back, a protective glass layer 171, a display plate 172, a liquid crystal panel 173, a light guide plate 174, and a reflective film 177 having the aforementioned display windows 4L, 4C, and 4R formed therein. *Id.* at ¶ 0031. In addition, as shown on this figure, light guiding plate 174 is provided with openings 40L, 40C, and 40R, described below.

Light guiding plate 174 is disposed on the back of the liquid crystal panel 173 for guiding light from cold-cathode tubes 176a and 176b (cold-cathode lamps) into liquid crystal panel 173 so as to illuminate liquid crystal panel 173. *Id.* Light guiding plate 174 is implemented as a translucent member having a light guide function, such as an acrylic-based resin, etc., having a thickness of about 2 cm, for example. *Id.* at ¶ 0034.

Figure 4 is reproduced below.

**FIG. 4**

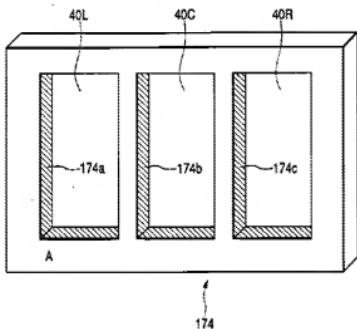


Figure 4 is a drawing showing the detailed structure of light guiding plate 174. *Id.* at ¶ 0036. The end faces 174a, 174b, and 174c corresponding to the inside dimensions of the cutouts (i.e., reel windows 40L, 40C, and 40R) are subjected to a light scattering process to form fine rough faces by blasting or with sandpaper so that light is emitted as if visible light rays were scattered on the light scattering process faces 174a, 174b, and 174c to emit light. *Id.*

#### *B. The claims*

The independent claims before us are claims 1, 2, 4, and 10, of which claim 1 reads:

1. A gaming machine comprising:

a liquid crystal display device including a liquid crystal panel, and a light guiding plate disposed at a rear of the liquid crystal panel for guiding light emitted from illumination means for the liquid crystal panel to the liquid crystal panel; and

a variable display device disposed at a rear of the liquid crystal display device and including a plurality of reels provided in a row each on which a plurality of symbols are arranged,

wherein a part of the light guiding plate to which each of the reels is opposed is formed with a cutout or a recess on the side opposed to the reel, and

wherein an end face of the cutout or the recess is being applied with a light scattering process.

Claims App., Br. 17.

Our understanding of the ultimate recitation that “an end face of the cutout or the recess is being applied with a light scattering process” is that the end face of the cutout or the recess provides a light scattering function. *See In re Hallman*, 655 F.2d 212, 215 (CCPA 1981) (“To the extent that the process limitations distinguish the products over the prior art, they must be given the same consideration as traditional product characteristics.”) (citation omitted).

*C. The references and rejection*

The Examiner relies on the following references:

Ozaki et al. (Ozaki)	US 2001/0031658 A1	Oct. 18, 2001
Weiss	US 6,623,006 B2	Sep. 23, 2003

Appeal 2009-007443  
Application 10/697,084

Niwa	US 6,790,140 B1	Sep. 14, 2004
Satoh et al. (Satoh)	US 6,811,273 B2	Nov. 2, 2004

Claims 1, 2, 4, 6-8, and 10 stand rejected under 35 U.S.C. § 103(a) for obviousness over Ozaki in view of Satoh.

Claims 3 and 5 stand rejected under § 103(a) for obviousness over Ozaki in view of Satoh and Weiss.

Claim 9 stands rejected under § 103(a) for obviousness over Ozaki in view of Satoh and Niwa.

#### PRINCIPLES OF LAW REGARDING OBVIOUSNESS

“[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). A rejection under 35 U.S.C. § 103(a) must be based on the following factual determinations: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) any objective indicia of non-obviousness. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)).

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (quoting *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007)).

## ANALYSIS

Ozaki discloses a game machine has a back side display unit for displaying a back pattern and a transparent front side display unit (disposed in front of the back side display unit for displaying a front pattern. Ozaki ¶ 0011. Although the back side display means in the various embodiments are depicted as reels, Ozaki explains that it may instead take the form of an LCD device, a CRT, or a spontaneous luminescent display device such as an EL display device, and an LED device. *Id.* at ¶ 0136.

The Examiner primarily relies on Figure 28, reproduced below.<sup>4</sup>

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<sup>4</sup> In response to the Examiner's finding that intermediate panel 27 in Ozaki's Figure 2 is "a light guiding panel" having cutouts (Final Action 2-3), Appellants correctly pointed out (Br. 7) that intermediate panel 27 is described by Ozaki as being formed of opaque material in paragraph 0045. The Examiner then explained that Satoh is relied on for a teaching of providing cutouts in a transparent or semitransparent plate. Answer 8.

**FIG. 28**

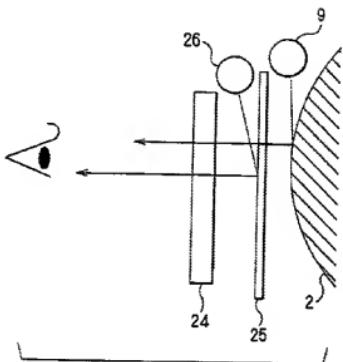


Figure 28 shows an embodiment that employs a liquid crystal device (LCD) as the front side display unit. *Id.* at ¶ 0138. Ozaki explains that

a semi-transparent reflective plate 25 is disposed between a transmission type (transparent) LCD device 24 and the back side display device (rotational reel display device) 2. A light source 26 for the LCD device 24 is preferably disposed upward of the reflective plate 25, and the light source 9 for the back side display device 2 is preferably disposed at the back side of the reflective plate 25. Accordingly, light emitted from the light source 9 is reflected by the back side display device 2 and passes through the reflective plate 25, while light emitted from the light source 26 is reflected by the reflective plate 25. Then, the player recognizes both lights through the LCD device 24.

*Id.* (bolding omitted). In discussing the Figure 28 embodiment, Satoh explains that “[w]hen the back side display device is made dark, light emitted from the light source 26 is reflected by the reflective plate 25, and is recognized by the player through the LCD device 24” (*id.* at ¶ 0138) and also that “if the back side display device 2 is composed of a spontaneous luminescent type display device such as an EL device, the light source 9 needs not be disposed.” *Id.*

The Examiner reads the claim term “light guiding plate” on reflective plate 25 while finding that it does not include cutouts or recesses, let alone a cutout or recess having an end face with the claimed light scattering property. Final Action 2. For such a teaching, the Examiner relies on Satoh.

Satoh discloses units for illuminating the peripheral surface and surrounding portion of each reel in a slot machine. Satoh, col. 1, ll. 5-7. Satoh’s illumination unit can be used to “change the colors of the peripheral surface of each reel as a symbol display section and its surroundings in various manners for improving the stage effects.” *Id.* at col. 1, l. 66 to col. 2, l. 3. Satoh’s slot machine does not include a front side (e.g., LCD) display in front of the reels.

Satoh’s Figures 1 and 2, relied on by the Examiner in rejecting claim 1 (Final Action 3), are reproduced below.

FIG.1

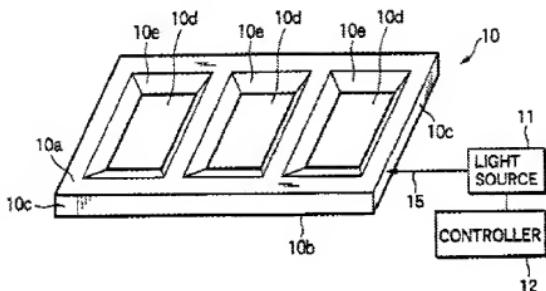
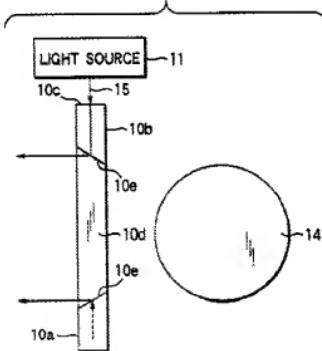


FIG.2



Figures 1 and 2 are schematic perspective and sectional views, respectively, showing an illumination unit according to a first embodiment. *Id.* at col. 3, ll. 16-20. Light 15 emitted from a light source 11 is incident on the side end faces 10e of the transparent frame member 10 and propagates

inside the frame member 10. *Id.* at col. 4, ll. 12-14. Each inner end face 10e formed as “the light scatter face behaves as an exit of the propagating light (i.e., as a light director).” *Id.* at col. 4, ll. 14-16. A player situated in front of the display window visually recognizes only the emitted light from the light directors (i.e., scatterers) 10e and “sees as [*sic*; sees that?] each reel is surrounded by a light frame.” *Id.* at col. 4, ll. 21-24.

After citing the above teachings of Ozaki and Satoh, the Examiner concluded that

[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Ozaki and Satoh as described above as all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Final Action 3-4. *See Leapfrog*, 485 F.3d at 1161 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”) (quoting *KSR*, 550 U.S. at 416).

We understand the Examiner’s position to be that it would have been obvious in view of Satoh to provide Ozaki’s semi-transparent reflective plate 25 with holes 10d having light scattering surfaces 10e, as shown in Satoh’s Figures 1 and 2. Although not stated by the Examiner, we assume the Examiner is also proposing to replace Ozaki’s light source 26 with Satoh’s light source 11, which illuminates an end surface of frame member 10 so as

to deliver light into the frame member and thereby to light scattering surfaces 10e. Satoh, col. 4, ll. 12-16.

Appellants contend that “the applied art is devoid of the features of the claimed invention” (Br. 9) and that “the Examiner has failed to find that the prior art includes each claimed element.” *Id.* at 10. Specifically, Appellants argue that

the applied art fails to teach or suggest a part of the light guiding plate to which each of the reels is opposed is formed with a cutout or a recess on the side opposed to the reel and an end face of the cutout or the recess is formed in a shape to scatter light.

Br. 11.<sup>5</sup> This argument is unpersuasive because Appellants have not explained why, let alone demonstrated that, the claim term “cutout” cannot reasonably be read on openings like holes 10d in Satoh’s frame member 10. Consequently, we are not persuaded by this argument that the Examiner failed to make the first of the four findings<sup>6</sup> required by MPEP § 2143 for

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<sup>5</sup> The above-quoted argument is directed to independent claim 2, which like claim 1 specifies that “a part of the light guiding plate to which each of the reels is opposed is formed with a cutout or a recess on the side opposed to the reel.” The claim 2 argument is reproduced above because it contains emphasis that does not appear in the corresponding argument that is directed to claim 1. Br. 8.

<sup>6</sup> The first of those four findings is:

(a) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference[.]

(Continued on next page.)

establishing obviousness in accordance with the *KSR* principle that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416.

Appellants also offer several reasons why they believe the Examiner failed to establish any motivation for combining the reference teachings. Their first reason that

[i]n the . . . embodiment shown in [Ozaki’s] Fig. 28, the semi-transparent reflective plate 25 is disposed to provide a backlight to the LCD panel 24. A skilled person would not be motivated to form a cutout, like the one formed on the opaque intermediate panel 27 [Ozaki, Fig. 2], on the semi-transparent reflective plate 25 that is already semi-transparent as shown by the arrows in Fig. 28.

Br. 7. The Examiner responded by explaining that

the secondary reference Satoh discloses cutouts disposed in a transparent light guiding plate (Satoh, col. 2, lines 7-11, 28-33). Therefore, there is clear motivation to provide cutouts in a transparent (or semi-transparent) plate, as this is explicitly taught by Satoh prior to the invention disclosed by appellant.

Answer 8. The Reply Brief does not address this reasoning of the Examiner, let alone show any error therein.

Appellants further argue that motivation to form cutouts in Ozaki’s semi-transparent reflective plate 25 is lacking because

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MPEP § 2143 (rev. 7, July 2008), subheading A (“Combining Prior Art Elements According to Known Methods To Yield Predictable Results”).

[a] skilled person would also not be motivated to do so by a reason that, if a cutout is formed on the plate 25, the backlight would not be provided to the LCD panel at the cutout when the back side display device 2 is made dark as described in [Ozaki's] paragraph [0139], causing the image displayed by the LCD panel [to be] damaged.

Br. 7 (first and third alterations added). The Examiner responded to this argument with the following explanation:

[T]he examiner does not find appellant's argument that the image displayed on the LCD panel 24 would be damaged due to cutouts being added to the reflective plate 25 because there are two light sources shown in Fig. 28 of Ozaki (light sources 9 and 26) such that light is reflected from both the reflective plate element 25 and the back side display (i.e. slot machine reel) element 2. Further paragraph 0139 cited by the appellant in support of this image degradation argument does not appear to describe a darkening of the LCD panel itself but instead to the darkening of the slot machine reels in an embodiment of the invention wherein the slot machine reels comprise an electroluminescent device.

Additionally, the slot machine devices disclosed by Ozaki . . . and Satoh . . . are analogous visual effect providing devices in the player entertainment field of endeavor. The claimed elements of an LCD screen in front of slot machine reels and a light guiding plate being applied with a light scattering process in front of slot machine reels were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions (i.e. no degradation of the image displayed on the LCD screen due to the presence of the secondary light source 9, which reflects light off of the slot machine reel elements 2, as shown in Fig. 28 of Ozaki), and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Answer 9-10.

The Reply Brief does not provide a response to the above reasoning of the Examiner, let alone demonstrate any error therein. Furthermore, we note that the argument to which the Examiner's above response is directed appears to assume, incorrectly in our view, that the liquid crystal display device in the *claimed* gaming machine must be capable of operation with the reel display turned off.

Because Appellants have failed to demonstrate error in the Examiner's conclusion that the subject matter of claim 1 would have been obvious over Ozaki in view of Satoh, we are affirming the rejection of that claim. For the same reason, we are affirming the rejection of independent claims 2, 4, and 10, as to which Appellants only repeat their unconvincing claim 1 arguments.

The rejections of unargued dependent claims 3 and 5-9 are also affirmed. *In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987).

## DECISION

The rejection of claims 1, 2, 4, 6-8, and 10 under 35 U.S.C. § 103(a) for obviousness over Ozaki in view of Satoh is affirmed.

The rejection of claims 3 and 5 under 35 U.S.C. § 103(a) for obviousness over Ozaki in view of Satoh and Weiss is also affirmed.

The rejection of claim 9 under 35 U.S.C. § 103(a) for obviousness over Ozaki in view of Satoh and Niwa is also affirmed.

Appeal 2009-007443  
Application 10/697,084

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136. *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

ELD

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